



FIG. 1. The anatomical theatre in the Archiginnasio of Bologna in its present condition.

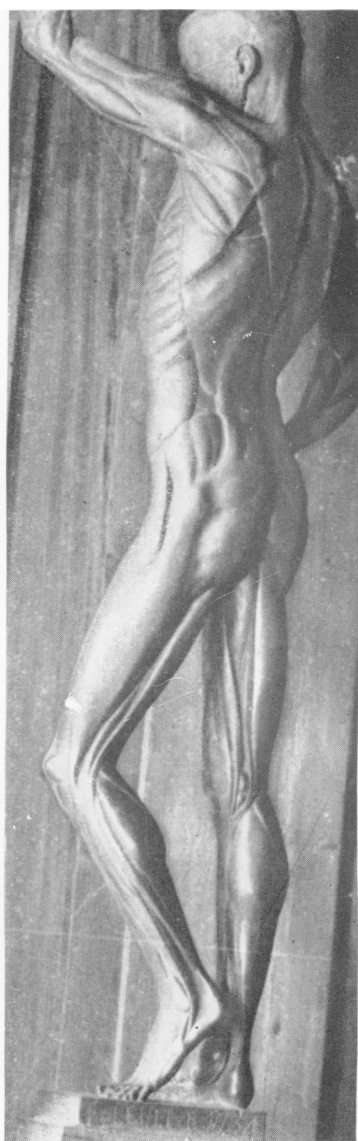


FIG. 2. The right and left sides of the écorché showing the name F. Lelli, 1734, on the pediment.

ERCOLE LELLI AND HIS ÉCORCHÉ*

HARVEY CUSHING

It is with the Teatro Anatomico in the Archiginnasio of Bologna (Fig. 1) that I propose to deal, and more particularly with the beautiful écorchés "carved in imperishable linden" which flank the Professor's seat and gracefully provide support for its canopy. No one interested in medical history, if in Bologna, fails to visit this shrine; and many of you must have been there, as I have been, more than once, without particularly noticing the name E. LELLI faintly cut on the pediment of the two identical muscle-men placed for the convenience of the professor so as to show the right and left sides of the body. (Fig. 2)

Nor, when there is so much of architectural beauty to admire and so many effigies to identify in their separate niches, like that of Mondino—all brilliantly carved out of wood—does one trouble to decipher the partly effaced Latin inscription over the *Cattedra* which may be literally rendered:

THIS THEATRE WORKED UPON IN THE YEARS 1638-1645-1649
AND COMPLETED,
NINETEEN MEN, DIRECTORS OF THE TAX AFFAIR,
HAVING REMOVED TIME'S BLEMISHES
TOOK CARE TO HAVE RESTORED IN THE YEARS 1733-1734.

What preceded this theatre first "worked upon" in 1638? What was it like before these nineteen men—*Rei Vectigalis Moderatores*—took care to restore it a century later? And what, if anything, has E. Lelli, whose name appears on the pediment of the myological figures, to do with all of this? These are questions to be answered satisfactorily only by starting in at the beginning. And should anyone wish to get authoritative and thoroughly documented information on the subject, he will, as I have done, find all that he

* Read before the Charaka Club, February 20, 1935. Also given on October 9, 1936, before the Beaumont Medical Club.

needs, and more than he can use, in Michele Medici's scholarly and entertaining record of the Scuola Anatomica di Bologna.*

In the history of universities, Bologna holds a unique place, for there Medicine early in the twelfth century came to be recognized as a special branch of learning. In the days when the young King Enzo of Sardinia was being held in captivity by the Bolognese, Guglielmo da Saliceto (1210-1277) had been the great teacher of surgery and anatomy; and he might well enough have been succeeded by his famous disciple, Lanfranco, had not the latter been driven out of his country by the Visconti and been obliged to seek refuge in France where his subsequent great reputation was made.

It was in their time that the doctors of medicine first were able to secure (1288) certain privileges comparable to those long held by the jurists—privileges which in course of time entitled them also to choose their own Rector. This reform was brought about through the influence of that remarkable man, Taddeo Alderotti, the Florentine, through whose further efforts that branch of medicine so useful to surgery, and only to be learned from dissection of the human body, was strengthened by the foundation of a School of Anatomists, though two hundred years were to elapse before a separate anatomical chair came, in 1571, to be established.

One of Taddeo's many distinguished pupils and successors was Bartolomeo da Varignana who left no written works but who is said to have been the first to obtain permission from the Senatus of Bologna to hold public "anatomies." Mondino de' Luzzi soon followed, first among the moderns known to have dissected the human body (1306), and Professor from 1316 to 1326, whose *Anatomia* was the principal text-book in use for the next two hundred years and more.

How many beside the celebrated Gui de Chauliac came to sit at the feet of Mondino can scarcely now be told, but in the next century, the cinquecento, in the shadow of his great fame and often as his commentators, came Bartolomeo Montagnana, Gabriele Zerbi, and Pietro of Argelata (*ca.* 1370-1423), well practised in the art of embalming and whose *Chirurgia* in six books was one of the first after Saliceto's to be put in print a century later.

Receiving his doctorate in 1391, Pietro held the Chair for many

* *Compendio storico della scuola Anatomica di Bologna.* Bologna, Tipi Governativi, 1857, 430 pp.

years, as did his follower, Alessandro Achillini (1463-1512), scion of a famous family, who in turn made some new anatomical discoveries and wrote further annotations on the work of the master. And so did Berengario da Carpi (1470-1530), most famous of all the successors of Mondino, who was professor at Bologna for twenty-five years (1502-1527) and in the course of his wanderings as a peripatetic teacher dissected a full hundred of bodies.

Like as not, Michelangelo frequented Berengar's dissecting room during those years in Bologna, when, after the downfall of the Bentivoglio and the triumphal entry in 1506 of Julius II., he was ordered to make the majestic bronze colossus of the seated Pope robed and mitred which was placed over the principal entrance of the church the Bolognese were erecting in honor of San Petronio their special patron saint.

A short nine years after Berengar's death in 1530, we find a young, foreign-born upstart, Vesalius, coming over from Padua to lecture on anatomy for the first time in terms of function; but the Bolognese hold no claim on him, taking greater pride, as is natural enough, in their own native sons. Among these were Bartolomeo Maggi (1477-1552) who wrote a treatise on gunshot wounds published the year of his death; and it was his nephew, Giulio Cesare Aranzio (1530-1589), who in his long career as a teacher was responsible for separating, in 1571, the Chair of Anatomy from its time-honoured alliance with Surgery.

No less notable were their contemporaries, Costanzo Varolio (1543-1575), who had won his doctorate in 1566 for discoveries on the anatomy of the brain; and Gaspare Tagliacozzi (1546-1599), the plastic surgeon who "meddled with the handiwork of God." He taught for some thirty years as did his contemporary Girolamo Mercuriale (1530-1606), humanist and scholar, who wrote an early treatise on dermatology and, as did his follower, Fabrizio Bartoletti (1586-1630), another on pediatrics.

And at about this time toward the end of the sixteenth century, Volcher Coiter (1534-1600) from Gröningen had joined the horde of other Ultramontani to become the pupil of one of the greatest of all the native-born anatomists of Bologna—Ulisse Aldrovandi, "prince of naturalists," thoroughly versed in comparative anatomy. While we shall hear more of him later on, it may be said in passing that in May of 1564 he encouraged the young Coiter to make a thorough study of the developing chick, the results of which were

published, in one of the rarest of anatomical works, nine years later in Nüremberg where Coiter had become city physician.

What Vesalius may have thought of the makeshift quarters in Bologna, temporarily erected in all probability for his demonstrations in 1539, is unrecorded; but what surroundings he believed should be dedicated to such a ceremony as a public dissection is shown in Calcar's frontispiece to his *magnum opus* published only four years later. As the guest of Giovanni Bianchi, then Professor of Medicine, Vesalius is known to have visited Bologna again in 1544 before his departure to the court of Charles V. Bartolomeo Maggi was lecturing on anatomy at the time and Vesalius, at the request of the students, was prevailed upon to demonstrate the distribution of the intrathoracic veins. According to Francesco dal Pozzo (Puteus), a thorough-going Galenist and chiefly known for his stinging censure of Vesalius, an ardent discussion arose which dragged on until late and finally was postponed to the morning because of the inclement weather. Even so heated an argument could not warm up the existing theatre.

Some two score years later, in 1560 to be precise, Pietro Cesi, the Bishop of Narni and Vice-Legate to Bologna, conceived the idea of bringing together under a single roof the several separate schools constituting "Lo Studio Bolognese," heretofore scattered through the community. This project met with opposition from the townspeople not only on the grounds of expense but because the chosen site would interfere with their pet plans for the completion of the Church of San Petronio. However, with the backing of the Pope, Cesi had his own way and by 1564 the "Palazzo delle Nuove Scuole" which soon came to be called the "Archiginnasio" was erected in the very shadow of the Church and out of the actual building blocks, it is said, that were intended for its construction.*

Somewhere in this building, the Archiginnasio, these celebrities who have been mentioned, from Giulio Aranzio to Ulisse Aldrovandi, had therefore been conducting their dissections over a period of thirty-odd years without due recognition of the growing importance and dignity of their subject. Professor Aldrovandi mean-

* The activities of the university continued to be held in the Nuove Scuole until 1803 when Napoleon had it moved to another site and after many vicissitudes, most of which lie beyond this story, the original building was given over to the communal library. The famous church of San Petronio was never completed.

while had been elevated to the important position of director of the Assembly "della Gabella Grossa,"* that branch of the Senate which had long controlled all matters relating to public education, and he quite probably may have suggested in 1595 to Galeazzo Paleotti, the head of the Bolognese Republic, that a permanent anatomical theatre be erected to rival that which had been built the year before in Padua for Fabrizio d'Acquapendente and Brother Paolo Sarpi.

So a theatre of sorts, as we are told, was provided for in the upper gallery over the University of the Artists, this School having attained a great reputation during Giulio Aranzio's long term as professor. Here the anatomical exercises continued to be held for some forty-odd years when, in 1637, the same Assembly "della Gabella Grossa," not content with what it had already done, determined to build another still larger and more magnificent theatre—that of which we have already seen a modern picture.

This enterprise was entrusted to a certain Antonio Levanti, carpenter, architect, and sculptor, who was directed by the Assembly to have the room ornamented with effigies, chiefly of those Bolognese famous in the field of Anatomy. With these instructions Levanti set to work on his plans for a completely wainscotted room which called for twelve life-sized statues, for twenty smaller busts, and for an elaborate ceiling. In addition, there were to be two anatomical figures, male and female, as supports for the canopy over the professor's seat in which position he could conveniently use them for demonstration.

Thus the Theatre, not quite as we see it today but as "worked upon in the years 1638-1645-1649," slowly came into being. As a gem of architecture and "miracle of art," it soon became celebrated throughout Europe. It was, indeed, so much admired and so many enquiries were made regarding its dimensions and construction that finally, in 1668, the artists Matteo Borboni and Lorenzo Tinti reproduced the plans and published them in book-form for distribu-

* The Assembly, in other words, was composed of the excise officers of the salt tax, this important commodity having always been a government monopoly in most European countries. The Bolognese probably got their salt from Adriatic salt beds with Venice purveying, or they possibly may have had control of their own salt mines. In imperial times the Roman legionnaires were given a ration of salt or in place of this a *salarium* (salary), namely, an allowance with which to purchase salt. Hence, as the saying is, we earn—or otherwise—our salt (or salary).

tion (Fig. 3). Their reasons for doing so are expressed in a colourful dedication which, freely rendered, reads as follows:

Such is the magnificence of the anatomical theatre in the Archiginnasio, built by our fellow citizen, the well-known Antonio Levanti, foremost among architects, that its fame, spread by a hundred mouths, has filled the world and there consequently are many who would desire to possess the original sketches. There have been not a few foreign students who regard this edifice as one of the most noble things in Bologna, a veritable miracle of art, and they have requested that a multiplication of the plans be made by means of intaglio [wood-block]. Therefore, by good fortune, having recovered the original sketches after their passage through many hands at the risk of being lost, we have thought well of publishing them in print so that examples might be seen in the most distant countries. This we have done by having them cut in the wood of Cimbri or Cirmolo of Macedonian origin which has the quality of ivory; therefore, born to meet the generosity of the Alessandri in the most illustrious Congregation of Gabella and by its order, the theatre is destined to accomplish a work in all ways memorable. . .

Through Levanti's drawings as thus published, it comes about that we may learn something of the alterations subsequently made in the famous theatre as we know it today. Beside the dedicatory leaf, the book comprises five large folded plates showing the design for each of the four walls and that for the elaborately carved zodiacal ceiling (Fig. 4). Of these plates, the one that now chiefly concerns us is that of the side of the room in which the professor's seat—the *Cattedra*—is placed.

In a copy of this book for which I am indebted to Dr. A. C. Klebs, someone has written on this particular plate (Fig. 5) in an early hand the names of the six famous Bolognese whose busts appear in the upper niches with the dates of their Bologna degrees (Irnerio, 1120; Nicolo Bertuccio, 1312; Baveria Baveria, 1428; Pietro Aponen., 1290; Giacomo Montecalvi, 1350; Hier. Manfredi, 1455); and the life-sized figures in the niches to left and right, where Argelata and Mondino now stand, appear originally to have been given over to Hippocrates and Galen.

But what is of chief interest is the original design of the *Cattedra* as represented in these plans (Fig. 6). The canopy is seen to be surmounted by a female figure of Anatomy attended by two child angels, one of whom supports her treatise and the other presents her with what suggests a pair of scissors but probably is a bone for

TEATRO ANATOMICO DI BOLOGNA

Fabbricato d'Ordine, e Comandamento
De gl' Illustris. & Eccellentis. Signori Sindici, & Affonti
della Gabella Grossa Padroni, ed Amministratori Apo-
stolici delle Scuole Publiche, e dell' Dote dello Studio &c.

DEL QVAL TEATRO IL DISEGNO PRESENTE

Danno, Dedicano, e Consacrano Matteo Borboni, e Loren' o Tinti Putori

Alla Congregatione Illustrissima del MDCLXIX.

CIO E'

L I Signori Onidto Montalbani: Lodovico Ratta: Francesco Monari Canonico
della molto Insigne Collegiata di S. Petronio: Andrea Daresi: Alfonso Arnaldi
Can. di S. Petronio: Gio. Francesco Castelli: Gio. Battista Dolfi Canon. e Decano
di S. Petronio: Cesare Zoppi: Gio. Antonio Cartari Cucchi: Francesco Orsi Co.
Alessandro Guizzardini: Camillo Malvezza Co. e Canonico di Bologna, Sindici
Dottori Collegati Legisti, & Artisti rispettuamente E li Signori Camillo Paleotti
Marchese: Carlo Luigi Scappi: Guid' Afcario Orsi Co. Alessandro Facheretti
Marchese: Filiberto Vitelliani Co. e Gio. Gasparo Grassi Co. Senatori Affonti.

Illustris. & Eccellentis. Signori, e Padroni Colendissimi.



A fama, che con cento bocche propala le Azioni più gloriose,
hauendo riempito il Mondo della Magnificenza del Teatro
Anatomico di questo rinomatissimo Archiginnasio, à cor-
rispondenza di così bella Fabbrica architettata dal già Anto-
nio Leuanti nostro Conciutadino di primo nome trà profes-
sori d'Architettura, hà eccitato in molti il desiderio d'hauer-
ne l'Abbezzo: e non pochi sono stati que' Forestieri Studiosi,
che trà le cose più nobili di Bologna osseruatò quell' Edifizio, l' hanno confessa-
to, qual' è, un Miracolo dell'Arte, e richiesto le fosse per anco stato moltiplica-
to coll'Intaglio. Onde noi, che per buona sorte habbiamo ricourato l'Autografo
passato per molte mani à rischio di perderli, habbiamo stimato bene di publica-
lo colle stampe, e negl'Esemplari farlo vedere anco ne' più lontani Paesi. L'hab-
biamo per ciò fatto intagliare in legno, già che quel lauorio è di simile materia,
essendo di legno Cembro, ò Cirmolo d'origine Macedonica, e perciò nato ad in-
contrare la generosità de gl' Alessandri nell' Illustrissima Congregatione di Ga-
bella, essendo stato per ordine di questa destinato ad opera fontuosissima, e tem-
pre memorabile; Alle Signorie loro Illustrissime adunque si deuono queste linee,
che le indirziamo, come all' Auge sublime de' nostri Osssequij, supplicandole à gra-
dite, ed accettate, stando la loro innata Cortesia, e Gentilezza, il desiderio inteso,
e cordiale, che noi habbiamo di seruire à i meriti eccelli delle SS. VV. Illustris, come
Bologna dalla nostra Stanza li 8. Dicembre 1668.

Humilissimi, Diuotissimi, & Obbligatissimi Seruitori
M. Borb. e Lor. Tinti.

FIG. 3. Title-page (much reduced) of Borboni and Tinti's publication in folio of Antonio Leuanti's five architectural drawings for the renovated theatre.



FIG. 4. Levanti's design (much reduced) for the elaborately carved ceiling of the theatre.

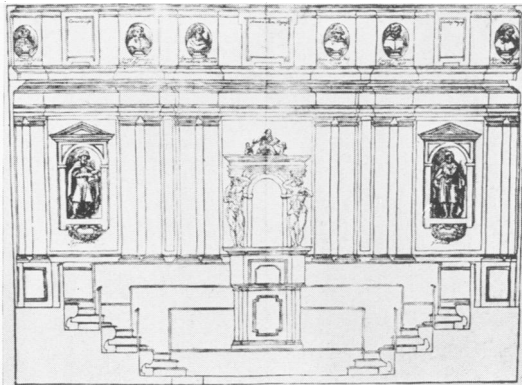


FIG. 5. Levanti's plan (greatly reduced) for the cathe-dra flanked by statutes of Hippocrates and Galen with a row of busts above to which names have been added in contemporary script.

her to identify. Supporting the canopy are two clumsy anatomical figures of a woman and a man. The details of the female figure to our left are not sufficient to tell what it may have been intended to represent. But the male figure evidently shows the deeper musculature of the lower venter in the tradition of Berengarius (Fig. 7) rather than of Vesalius, for it was the school of Bologna, not of Padua, here to be immortalized.

Who, in addition to Hippocrates and Galen, may have been originally chosen to occupy the twelve large niches provided by Levanti's plans I do not find recorded. Indeed, they may not all have been filled. However this may be, the best part of another century has passed and the time has come when the nineteen men, who now in their turn happen to be directors of the *Gabella Grossa*, wishing "to remove time's blemishes" from the theatre, decide not only to restore but to

improve it by replacing the effigies with others of better workmanship. And, as so often happens when architecture and sculpture have combined to memorialize the great of an earlier era, those nearer in point of time appear to be of lesser stature, and with two niches still reserved out of respect for the Fathers of Medicine, what ten doctors of Bologna are at this juncture to be chosen for this anatomical Hall of Fame?

Without question Malpighi (1628-1694); but who else? In our ignorance we might enquire about Malpighi's pupil, the indefatigable Valsalva (1666-1723), the first to hold the position of

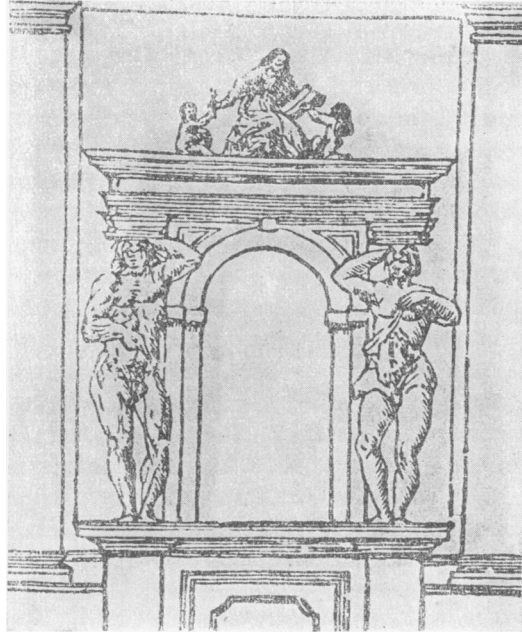


FIG. 6. Levanti's plan for cattedra, anatomical caryatids supporting the canopy being roughly represented.

anatomical prosector; but though nearing his end, he was not yet dead, nor indeed was he native born. The same was true of his most celebrated pupil and long-time assistant, Morgagni (1682-1771); but by this time, after fifteen years in Bologna where his



FIG. 7. The pre-Vesalian view of the abdominal muscles as represented by Berengario da Carpi.

died, all too young, of the plague; the self-made Gian Battista Cortesi (1553-1630?) who taught anatomy both in Bologna and Messina; and Bartolomeo Massari who established an Academy of Anatomists limited to nine scholars.

Among these more recent candidates for remembrance, Bartoletti is chosen together with three of Massari's pupils who were

doctorate was gained, Morgagni has joined the school in Padua, which more deservedly claims him. And what of Galvani (1737-1798); whose statue stands in the piazza facing the ancient Archiginnasio and who on all counts deserves a place here? But we learn that the theatre was finished three years before he even saw the light of day.

Who else was there then to compare with the legendary worthies who had held the Chair of Anatomy in the past? Certainly to be considered were Angelo Michele Sacchi, both father and son; Francesco Muratori; Fabrizio Bartoletti (1586-1630) who held the Chair of Surgery and Anatomy and wrote many books before he

still living when the Teatro was first erected. One was Carlo Fracassati, who in 1658 was experimenting with the intravenous injection of drugs; the second was Marcello Malpighi (1628-1694), chief ornament of the School of all time, the founder of microscopic anatomy, no less beloved for his character than famous for his discoveries; and the third, Gian Girolamo Sbaraglia, Malpighi's contemporary and bitter opponent.

The nineteen directors of the great tax, who in 1723 now propose to rehabilitate the theatre, not unlike those who today control funds for educational purposes, are not averse to donations from outside sources even though a string be attached thereto. So when a certain well-to-do citizen, Marc' Antonio Collina by name and a nephew of Sbaraglia, came forward and offered to pay for six of the new statues, provided one of his uncle be included, the offer was gladly accepted; and it was left for some public-spirited Bolognese to make provision not only for the remaining six but also for the figure symbolic of anatomy called for in the original plans but possibly never put in place.

To carry out this program Domenico Gianotti, a celebrated wood-carver from Lucca, was happily engaged, and he set to work to design and newly to cut from balsam, linden, and poplar the life-sized figures of the chosen twelve (Hippocrates, Galen, Mondino de' Luzzi, Varignana, Malpighi, Sbaraglia, Argelata, Aranzio, Varolio, Tagliacozzi, Bartoletti, and Fracassati) as well as that of the presiding divinity who, crowned with laurel, appears to be interrupted in her perusal of a document by a fat little angel who now proffers her an unmistakable *os femoris*.

But skilful as he was, Gianotti was doubtless more experienced with the draped figure than the nude, and when it came actually to skinning the nude, that was not for him to undertake. At this juncture, "with much silent splendor," if I may quote Professor Medici, "there comes into the narration Ercole Lelli who of his own free will offered to carve in wood the two anatomical figures free of charge."

Lelli, at this time only thirty years of age, had from his youth been interested in studies of the human figure, and like many artists of an earlier day had frequented dissecting rooms to familiarize himself with the bones and muscles in so far as they affected the surface modeling of the body. In preparation for his promised contribution to the renovated theatre, having first posed two skeletons

in the natural manner suitable to support the canopy, he covered them with a composition of moist hemp and wax mixed with bran and turpentine, the superficial muscles as they appeared in an actual dissection being moulded in the state of relaxation or tension appropriate to the position in which the figures stood. Then from these wax models the final copies were carved in linden-wood, so skillfully and beautifully they were acclaimed by all as masterpieces of plastic art.

How the unoccupied Teatro appeared thus newly adorned is indicated in a contemporary engraving (Fig. 8), which gives its architectural details better than could be shown in a photograph. On the other hand, we see it occupied during an Insignia in a painting from an illuminated document which the late Prof. Martinotti some time ago unearthed from the archives of the University (Fig. 9).^{*} Here the view of the room is from the side, with the *Cattedra* flanked by Lelli's muscle-men shown at the right.

The seance depicted was the memorable one when that prodigy of learning and "chief ornament of her sex," Laura Maria Caterina Bassi, recent professor of universal philosophy of Bologna and later to become famous as the teacher of Lazzaro Spallanzani, is expounding her thesis to a crowded house while beside her, for moral support, are seated two women. The attentive professor who presides and whom she addresses from the floor is said to be Domenico Maria Gusmano Galeazzi, whose daughter, Lucia, ere long is to become the wife of Luigi Galvani—both of whom at this particular moment are babes in arms. In the elevated seats facing the *Cattedra*, identified in the original by his red robe, sits the Cardinal legato Spinola, the Genevese, who has but recently made his official entry into Bologna. The anatomical prosector, Lorenzo Bonazzoli, is demonstrating and around the dissecting table sit three figures, one of whom holds open the page of text.

This particular Insignia was held the very year (1734) the theatre was completed, so we may trust that the young sculptor of the muscle-men has been favoured with a seat in one of the stalls; and the ceremony over, let us imagine that he might even have been presented to the Cardinal legato and his entourage. Ere long, his portrait is painted (Fig. 10) together with a small replica of his

^{*}Martinotti, Giovanni. *Per la Storia della Medicina*. "L'anatomia pubblica a Bologna." *Illustrazione Medica Italiana*, 1923, Anno V, 3-7, 25-29.

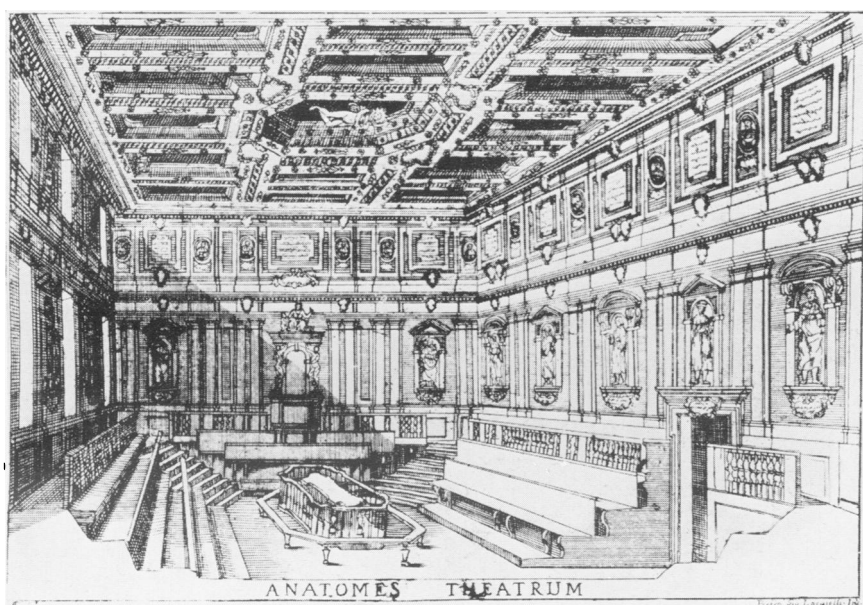


FIG. 8. The unoccupied theatre from a contemporary print engraved by Pietro Gio. Locatelli.

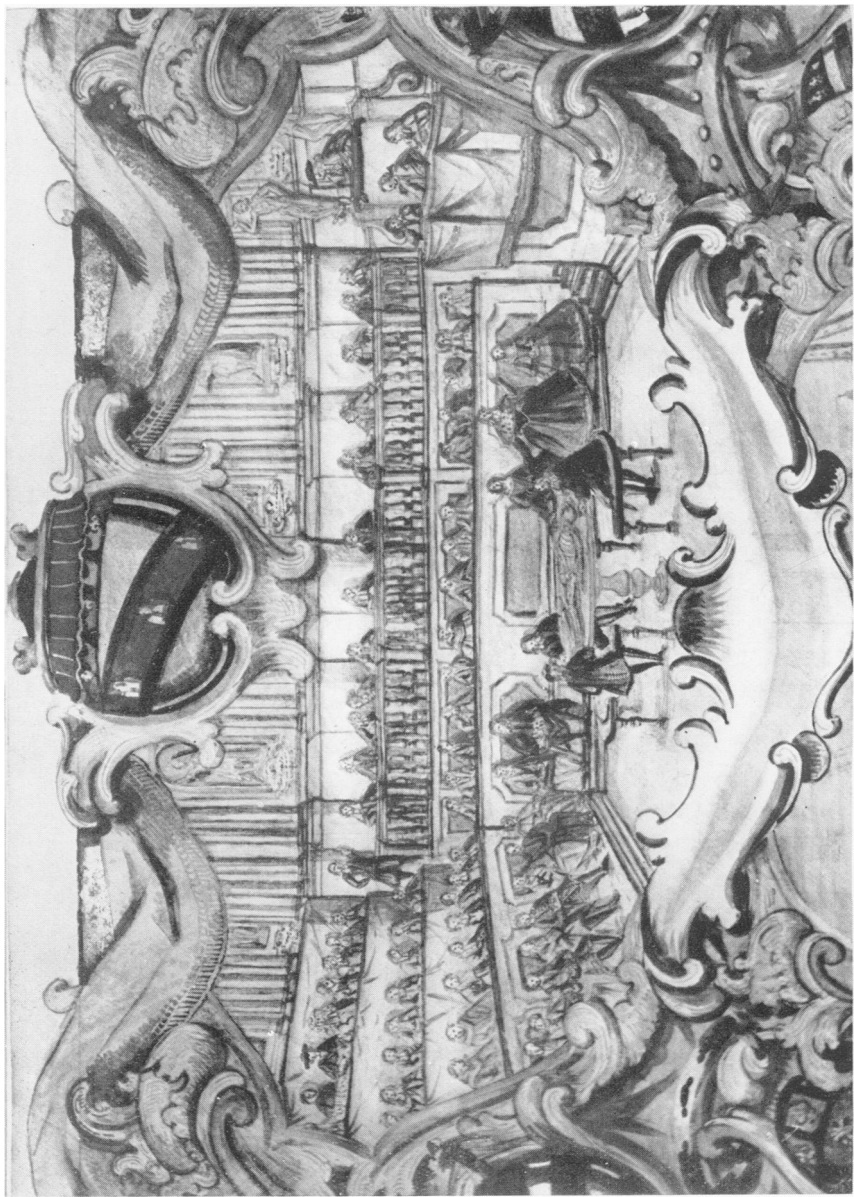


FIG. 9. Contemporary painting of the theatre soon after completion when occupied during an insignia at which Laura Bassi expounds her thesis. Note Ercole Lelli's écorchés partly shown flanking the professor's seat.



FIG. 10. Portrait of Ercole Lelli painted in company with a myological écorché.



FIG. 11. Portrait of Coiter done in 1575, showing myological écorché long antedating Lelli.



FIGS. 12 and 13. Effigies in wax of Giovanni Manzolini and Anna Morandi Manzolini still preserved in Bologna.
(Kindness of Professor Putti.)

admired écorché,* and he soon busies himself with the making of wax models of the viscera so lifelike nothing equal to them has yet been seen.

These models soon came to the attention of another Cardinal of Bologna, Prospero Lambertini, who admired them so greatly he proposed to the Senate that an anatomical museum should be established comparable to those already in use by other schools, such as that of Natural History. And when this same Lambertini shortly after became Pope Benedict XIV., he provided at his own expense (1742) the money to make possible the proper display of all the preparations in wax that would be useful for the learning of anatomy.

Of this museum, Lelli was made custodian and a year later he acquired an assistant, a clever young Bolognese sculptor, Giovanni Manzolini, who with the help of a surgeon, Boari, came to excel his teacher as a modeller in wax just as he in turn is said to have been excelled by *his* pupil and later wife, Anna Morandi. Their effigies in wax are still preserved (Figs. 12 and 13), and the collection of anatomical preparations which they had made became so celebrated that even the Emperor Joseph II. expressed a wish to see it.

So a famous school came into being in which emphasis was laid on that branch of anatomy equally essential for both surgeons and artists. Lelli "though not in name was yet in fact professor" of this school; but how important it was regarded may be gathered from what happened on his death in 1766. For when this occurred, the young scientist, Luigi Galvani, then thirty years of age, was appointed Lelli's successor as custodian of the Anatomical Museum and to this important post there was now added the title of professor. By this time Galvani was happily married to Galeazzi's daughter and what rôle she played in his momentous discovery of animal electricity is a legend by itself, familiar to all. Less well known is the fact that in 1777 Galvani delivered a public oration in praise of Anna Morandi Manzolini on the occasion of the posthumous acceptance of her anatomical preparations for public use by the Institute of Arts and Sciences.

* Lelli was not the first to have his portrait so painted. Volcher Coiter in 1575, when 41 years of age, was similarly portrayed (Fig. 11) when in Nuremberg. Doubtless the making of myological models was in the Bolognese tradition long before Ercole Lelli carved his celebrated pair of figures.

But this gets far ahead of our story, for Lelli is still much alive, and leaving his pupils to go on with their modeling in which they now excel him, he finds other outlets for his energies. One of them is to draw, engrave on copper, and publish sometime after 1734 five myological tables* evidently inspired by the Calcar-Vesalian woodcuts though the figures are posed in different attitudes. There is no explanatory text for this book, which is without place-name or date. The anatomical structures are merely listed on the verso of each succeeding leaf so as to face the engraving to which they apply; and the figures are not wholly restricted to the superficial musculature, for the last of the plates shows the deeper muscles on a posterior view.

As a useful treatise, this work scarcely deserves the praise accorded it by Michael Medici; and Lelli being capable of better things may indeed have had no part in its publication. It is not to be compared with many of its predecessors which were in the tradition of Calcar, Titian's pupil and co-worker of Vesalius—e.g. Baudin (1560), van der Gracht (1660), François Tortebat (1667), Bonavera's *Notomie di Titiano* (circa 1670), Montani (1679), Maschenbauer (1706), and Du Laurent (1731)—and merely stands in the sequence of books of similar sort designed more directly for the use of painters and sculptors than anatomists—e.g. Buchardan (1741), Desdier (1758), and Riedel (1783).

More important than this were Lelli's activities in other directions, for he was interested in physics and mechanics as well as in the fine arts. He became director of the Mint, superintendent of a factory for making instruments, and finally was made president of the Academy of Sciences. Many tributes and academic diplomas from learned bodies were showered upon him before he died in March, 1766, at the age of 63, having lived, as Dr. Medici has said: "a life considering the ordinary course of nature, fairly long; considering the work he did, very long; considering the loss of good ability, all too brief."

Whether Lelli's myological *écorchés* were more admired in his day by sculptors and painters than by teachers of anatomy is difficult

* Lelli, Ercole. *Anatomia esterna del corpo umano per uso de' pittori e scultori, delineata ed incisa, con la denotazione delle parti tratta da' manoscritti del medesimo*. There were two editions of this work: the first, by Antonio Suntach (no place, no date); the second, by Cattani e Nerozzi, Bologna (no date).

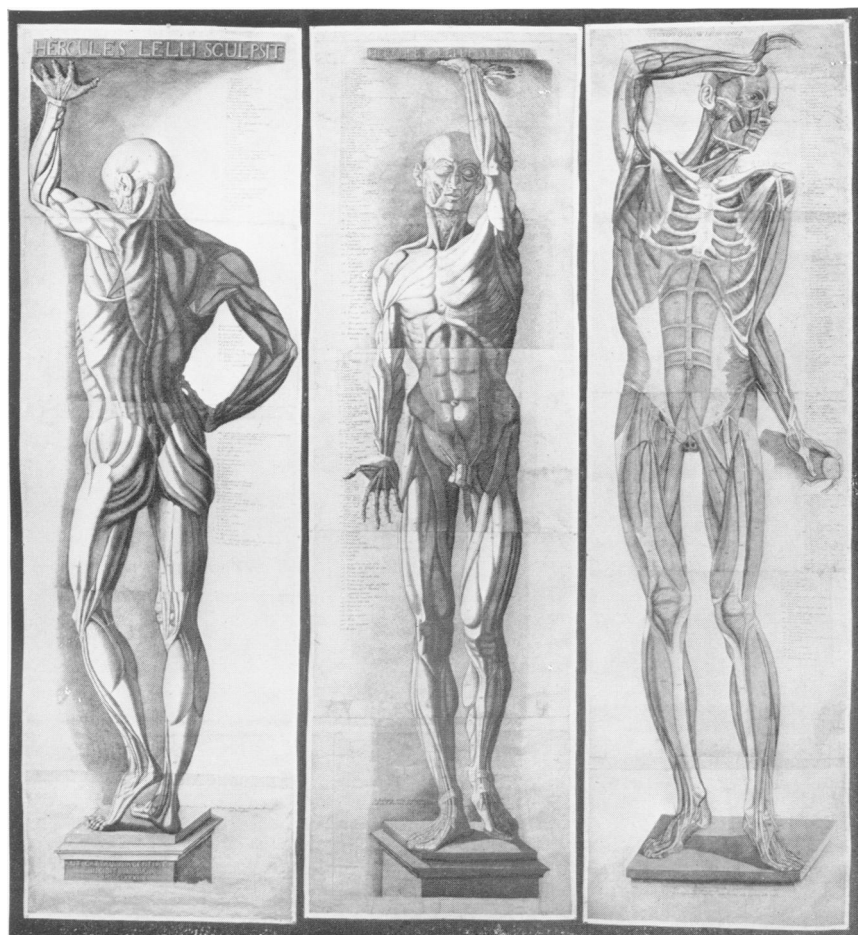


FIG. 14. The three life-sized engravings on copper made by Antonius Cattani *ca.* 1780, probably for art students.

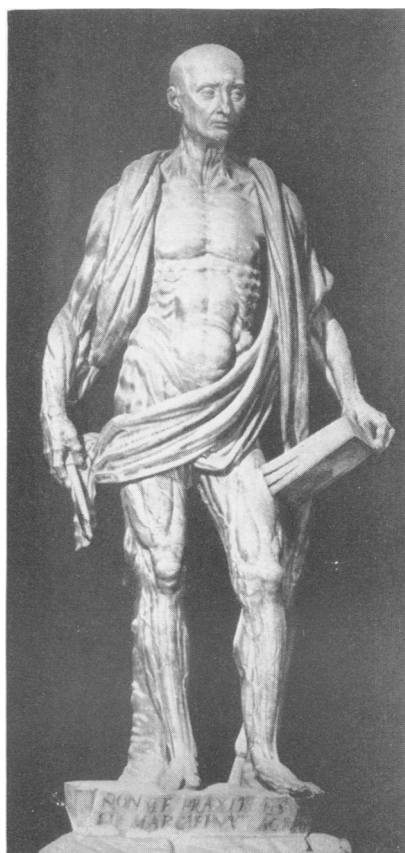


FIG. 15. Aggrate's écorché of San Bartolomeo in the Milan cathedral.

to say. However this may be, the famous school of anatomy fell on sorry days with the unsettled political conditions during the Napoleonic era when students in Bologna came to be numbered by hundreds rather than by thousands as in the heyday of the University. The theatre was neglected; the public dissections degenerated into spectacular features of carnivals attended by masked persons attracted by curiosity alone;* and Lelli's masterpieces came to be shifted from place to place, to use Dr. Medici's simile, like the horses of San Marco in Venice. They were temporarily deposited in the Academy of Fine Arts, and it must have been during their sojourn there, when in 1780 and 1781 three life-sized copper engravings, put together in five pieces, were made of them by Antonius Cattani Placentinus for the especial use of art students (Fig. 14).

Two of these large charts, which appear to be rare (they were unrecorded by Ludwig Choulant), have been described by Professor Martinotti,† but there is still a third showing the deeper layer of muscles (*secondo ordine de muscoli*) included in the set which my friend, Professor Putti, presented to me a few years ago. Who Cattani may have been and whether he left other works of like kind I have not been able to learn.

Lelli's sculptured écorchés were of course known to Choulant and he mentions that one of the smaller statuettes in wax, possibly the very one shown in Lelli's portrait, was in the possession of the Abbate Farsetti in Venice. Myological statues, some very beautiful though none better poised than Lelli's, are now to be found in all great schools of art. One of them has, indeed, been ascribed to Michelangelo and another to his contemporary, Bandinelli, while others of more certain authorship are those by Ludovico Cardi, by Bucharion, by Hudon, and Jean-Galbert Salvage's gladiator in the *École des Beaux-Arts*.‡

* The two principal functions conducted each year with pomp and ceremony in the Cortile of the Archiginnasio in earlier times and which the "learned and elegant" were invited to attend were the public anatomy presided over by the surgeons and anatomists, and the annual preparation of the Theriaca, the "universal panacea," presided over by the physicians and pharmacists.

† *L'Anfiteatro Anatomico dell' Archiginnasio di Bologna*. Soc. Tipografica Mareggiani. "Il comune di Bologna" Anno XIII, June 1927.

‡ Cf. Mathias-Duval and Ed. Cuyer. *Histoire de l'Anatomie Plastique; Les maîtres, les livres et les écorchés*. Paris, 1898.

It is remarkable that more anatomically trained sculptors had not put their hands to similar problems long before Lelli's time. The legend of San Bartolomeo was enough to provide the theme, but so far as I know the statue by Marco Agrati in the Milan Cathedral (Fig. 15) with its boastful inscription (*non me Praxitiles sed Marcus pinxit Agratis*) was the only effort in this direction. It represents the Saint wearing his skin over his shoulders like a much-needed tippet, but it indicates no such knowledge of the superficial muscles as many of Agrati's contemporaries must have possessed.

In the "Last Judgment," completed in 1541, Michelangelo (Fig. 16) shows the Saint sitting at the feet of Jehovah with brandished knife, the instrument of his martyrdom, in one hand, the pendant skin in the other. And in the folds of the *écorce* the artist through some fantasy has slyly depicted the unmistakable lineaments of his own mournful countenance (*cf.* Fig. 17). He may have had reason to feel sad after those four years of toil with a brush when he much preferred to work with a chisel, if papal ideas of propriety had obliged him to show the Saint, minus his traditional crop of black hair, to be sure, but still wearing a perfectly good skin—an incongruity which could not have escaped the artist.

It was doubtless a revolting subject to any but an anatomist, yet what might artistically be done with it was to be shown fifteen years later in one of the plates of Valverde's *Anatomy* (Fig. 18) by a myologically versed Spanish artist, Gaspar Becerra by name. As the first edition of this book was published in 1556 at Rome, it may well be that Becerra was at work there and that his inspiration was drawn from his master's recently finished fresco over the altar of the Sistine Chapel.

Whether anatomy has done more for art or art for anatomy is a question we need not attempt to answer. They have aided and supplemented one another from the first and occasionally been so combined, as in the person of Leonardo, one may find it difficult to tell where anatomist leaves off and artist begins. Even in my day as a student, many of us in the tradition of Ercole Lelli were encouraged to supplement our text-books by purchasing plaster models on which we painted the muscles and outlined the dermatomes; and one of our most popular courses, attended by both students of Art and of Medicine, was given by an artistically minded surgeon, something of a sculptor and engraver in his own right, who

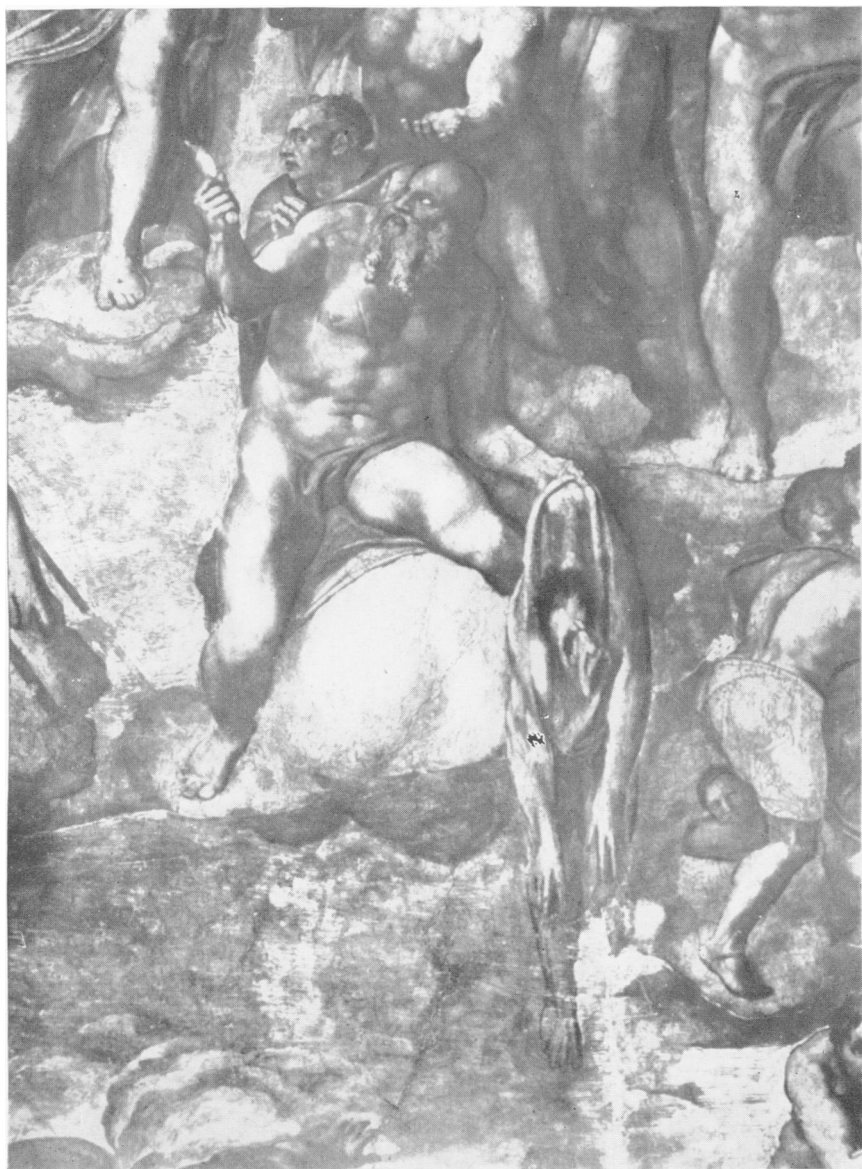


FIG. 16. Fragment of Michelangelo's "Last Judgment" in the Sistine Chapel, showing San Bartolomeo astride a rock, holding his écorché in the left hand and pointing his knife toward the Jehovah with the other.



FIG. 17. The well-known self-portrait of Michelangelo.
(For comparison with Fig. 16.)

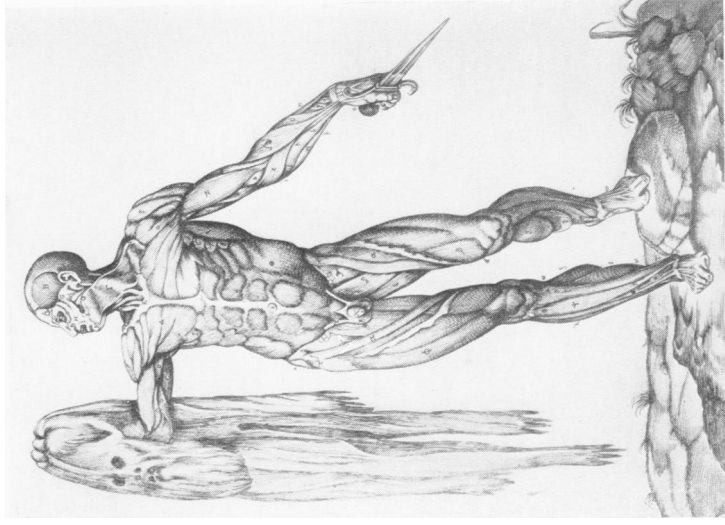


FIG. 18. Becerra's rendering of San Bartolomeo
as a myological figure, engraved for Valverde's
Anatomý (Rome, 1556).

on a living model mapped out for us the surface landmarks of the body.

We may perhaps lament that this is all of the past and that modern anatomical science no longer bothers its head with the relationship of anatomy to art. But even if the Lelli tradition appears old-fashioned and anatomy is concerned with ever deeper and finer structures only to be disclosed by the microscope, they must somehow be pictorially represented in order to be readily grasped by the student. Indeed every student should be encouraged to draw what he sees.

There is nothing really new: all things repeat themselves. The spirit of Ercole Lelli doubtless looked down approvingly when a Department of Art as applied to Medicine came to be established at the Johns Hopkins Medical School. And his pupil, Anna Morandi, must have watched with itching fingers while, for a modern Laura Bassi, microscopic sections of the brain stem, let us say, were being serially projected onto thin slabs of her familiar wax to be laboriously cut, assembled, modelled, painted, and finally, by Max Brödel, made ready for publication by processes of colour printing on stone not dreamt of in her day.

She clearly perceived that the interest had shifted from the surface to the depth, from the large to the small; and that this required an entirely new technique with which Malpighi the Bolognese would have felt more at home than Vesalius the Paduan. But with understanding eye, she saw that the principles, which in her day bound Art and Anatomy together, after two hundred years had remained essentially unchanged—as they undoubtedly for all time will remain.